Draft Industrial Area
Sampling and Analysis Plan
Fiscal Year 2002
Addendum #IA-02-02

December 2001

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ACRONYMS

As	arsenic
Be	beryllium
Cd	cadmium
Cr	chromium
Cu	copper
Fe	iron
FY	Fiscal Year
Hg	mercury
HPGe	high-purity germanium
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
mg/kg	milligrams per killograms
Mn	manganese
Mo	molybdenum
Ni	nickel
NO_2	nitrite
NO_3	nitrate
PAC	Potential Area of Concern
Pb	lead
pCi/g	picocuries per gram
PCOC	potential contaminant of concern
SAP	Sampling and Analysis Plan
Se	selenium
Sr	strontium
SVOC	semivolatile organic compound
UBC	Under Building Contamination
µg/kg	micrograms per kilogram
Zn	zinc

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1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001a) Addendum #IA-02-02 includes IA Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PACs), and Under Building Contamination (UBC) Sites proposed for characterization during Fiscal Year (FY)02. This IASAP Addendum is a supplement to the IASAP (DOE 2001a). The location of the IA Groups and IHSSs, PACs, and UBC Sites proposed are shown on Figure 1.

2.0 EXISTING CHARACTERIZATION INFORMATION

Existing data for the IHSSs, PACs, and UBC Sites are available in Appendix C to the IASAP (DOE 2001). Existing concentrations and activities above the background mean plus two standard deviations or method detection limits are shown on maps in Section 5.0, where available. Table 2 presents the PCOCs by IA Group as well as IHSS, PAC, and UBC Site.

3.0 SAMPLING

The proposed sampling specifications (number and type of samples) for each IHSS, PAC, and UBC Site are listed in Table 3. Proposed new sampling locations are the starting point for IA Group characterization. After characterization starts, the number and type of samples may change based on sampling results. Changes to sampling specifications will be considered in consultation with the regulatory agencies.

Three types of sampling strategies are used to determine sampling locations: statistical, geostatistical, and biased. Statistical grids have computer-generated random start points and orientations. Additionally, the grids have been extended outside the IHSS, PAC, or UBC Site to provide additional sampling locations if needed. Biased samples are based on existing data and geostatistical analysis was used where possible.

Where a new sampling location overlaps or is adjacent to an existing sampling location, the existing sampling location data will be used during evaluation.

If remediation is required at this IHSS Group, in-process sampling will be conducted in accordance with Section 4.1 of the IASAP (DOE 2001). When remediation is complete, confirmation sampling locations will be determined and samples will be collected in accordance with Section 4.5 of the IASAP (DOE 2001).

4.0 MAPS

Maps in this section are organized by IA Group and IHSS. All existing sampling locations and existing data, where available, are presented, followed by the proposed new sampling locations. Geostatistical analysis data, where available, are included with the maps.

5.0 REFERENCES

DOE, 1992, Phase I RFI/RI Work Plan Rocky Flats Plant Other Outside Closures, Operable Unit 10, Rocky Flats Plant, Golden, Colorado, May.

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DOE, 1992 – 2000, Historical Release Report for the Rocky Flats Plant, Golden, Colorado.

DOE, 2000, Rocky Flats Environmental Technology Site Industrial Area Data Summary Report, Golden, Colorado, September.

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

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Table 1
Potential Contaminants of Concern

IA Group	IHSS/PAC/UBC Site	PCOCs	Media	Data Source	Sampling Location Method
900-4&5	900-175 – S&W Building 980 Contractor Storage Facility	Metals (As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Sr, V, Zn) Inorganics (NO_3, NO_2) SVOCs Radionuclides	Surface Soil	Historical Release Report (HRR) (DOE 1992 - 2000) IA Data Summary Report (DOE 2000) OU 10 Work Plan (DOE 1992)	Statistical Grid

As arsenic
Be beryllium
Cd cadmium
Cr chromium
Cu copper
Fe iron
Hg mercury
Mn manganese
Mo molybdenum
Ni nickel
NO_2 nitrite
NO_3 nitrate
Pb lead
Se selenium
Sr strontium
SVOC semi-volatile organic compound
Zn zinc

Table 2
Sampling Specifications

IA Group	IHSS/PAC/UBC Site	No. of Samples	Media	Depth Interval	Analyte	Method	Duplicates	Rinsates	Field Blanks (VOCs only)	Trip Blanks (VOCs only)
900-4&5	900-175 – S&W Building 980 Contractor Storage Facility	6	Surface Soil	0-0.5'	SVOCs	8270C	≥ 5%	≥ 5%		
		6	Surface Soil	0-0.5'	Metals	6010A	≥ 5%	≥ 5%		
		6	Surface Soil	0-0.5'	Radionuclides	HPGe	≥ 5%	≥ 5%		
		6	Surface Soil	0-0.5'	NO_2/NO_3	9056	≥ 5%	≥ 5%		

HPGe high-purity germanium
VOC volatile organic compound

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IA Group 900-4&5 Maps

Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 900-4&5 (900-175 and 900-1308)

FY2002 Sampling Locations for IA Group 900-4&5 (900-175)

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	These comments will be included with IASAP Addendum #02-01. They are provided here because the responses are relevant to this addendum also.	
	CDPHE and EPA Comments, November 2, 2001	**Response**
	General Comments	
1	This document could be easier to review if more of the pertinent information were provided in the document itself, so that reviewers are not required to pull tables and text from a number of different sources. This would not involve much additional work and would not make the addendum much more lengthy. Specifically, add the text for each IA Group from Appendix C of the IASAP to the packets. The maps entitled *Location of Existing Sample Results above Detection Limits or Background Levels for IA Group XX* should provide background levels, detection limits, and action levels for all results that are posted on the maps for easy side-by-side comparison. Providing these values is preferable to merely indicating whether or not the sample results are above action levels.	The background levels plus two standard deviations, detection limits, and ALs have been added to the existing data maps.
	IA Group 900-4&5	
1	The text accompanying the geostatistical data needs to include an explanation of how these data were used to select sampling locations, as discussed in a conference call. The table entitled *IHSS Group 900-4&5 Input Parameters DATA Values* needs some explanation. Are these SOR values, and if so, are they for the existing sample locations? The SOR calculation for at least a few should be included. How are analytes that have no action	This text and accompanying maps and tables have been deleted. Please see Industrial Area Sampling and Analysis Plan Fiscal Year 2002, Addendum #IA-02-02 for IHSS Group 900-4&5 sampling strategy. There is no historical evidence that radionuclides were stored at this site. Additionally, drums stored at this site were sampled and radionculides were not detected. Sampling for radionuclides was

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	level, such as phenanthrene, pentadecane, and heptacecane2,6,10, 15-tetrame included in the SOR calculation? The parameters provided on the following pages need some explanation as well. Finally, radionuclide analysis should be added to the list for this group since radionuclides have been detected above background and have historically been stored at this location.	conducted in 1988 and these data are summarized in the Phase I RFI/RI Work Plan Rocky Flats Plant Other Outside Closures, Operable Unit 10, Rocky Flats Plant, Golden, Colorado, May. (DOE 1992). Samples from four locations were analyzed for radionuclides. One location indicated that plutonium and americium were above background. Americium was detected at 0.15±0.08 (vs. background of 0.045) and plutonium was detected at 0.42±0.18 (vs. background of 0.066) Both of these are well below Tier II ALs. These data are not included in the IA Data Summary because they did not pass the Data Quality Filter. Radionuclides will be included in Addendum #IA-02-02.
2	The *Probability Map of Non-Radionuclides Sum of Ratios Indicator Kriging Results* is distorted with respect to other maps and should either be deleted or provided in the same perspective as the other maps. A QC check of the results posted on the map Location of Existing Sample Results above Background Levels or Detection Limits found that results are missing (but are available from the Data Summary Report CD). Missing are Pu and Am results for locations 99A9500-004 thru 008, which are above background levels for surface soils. SS011993 is missing at least phenanthrene (350 µg/kg); SS012193 is missing at least Ni (35.3 µg/kg) and Ag (1.2 µg/kg).	The kriging results map has been deleted. The existing sample results maps have been replotted to more correctly capture information from the database. Specific changes include the following: • The algorithm in RADMS was changed so that the first sort routine is the routine that compares the value to background and the second sort is detection limit. Now, all analytes above background are shown on the map even if they are non-detected analytes. • SWD/GIS listed some location codes as groundwater, even though they had borehole samples associated with them. If there were associated soil samples they were included. Review of the IA database is summarized in Table 1, below.

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		These data are from the IA Data Summary Report. Sample numbers with the 99A9500 prefix were collected from borings drilled at the 980 Pad not IHSS Group 900-4&5. The value of 350 ug/kg for phenanthrene was not included because it is a nondetected value. The value for silver (Ag) was not included because it is less than the corresponding background value of 1.224 mg/kg. The value for nickel (Ni) is now on the map because it is above background, but is a non-detected analyte.
	Comments from EPA	
	General Comments	
1	This document could be made more user friendly by providing more of the pertinent information in the document itself, so that reviewers are not required to pull tables and text from a number of different sources. This would not involve much additional work and would not make the addendum much more lengthy either. Specifically, add the text for each IA Group from Appendix C of the IASAP to the packets. The maps entitled Location of Existing Sample Results above Detection Limits or Background Levels for IA Group XX should also provide on the map, the background levels, detection limits, and action levels for all results that are posted on the map for easy comparison. (Some maps show columns that provide yes or no response to questions of > Tier 1 or Tier II levels. Just post the level and reviewers can have a better understanding of the comparison).	The background levels plus two standard deviations, detection limits, and ALs have been added to the existing data maps.

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	Specific Comments	
1	A QC check of the results posted on the map Location of Existing Sample Results above Background Levels or Detection Limits found that results are missing (but available from the Data Summary Report CD). Missing are Pu and Am results for locations 99A9500-004 thru 008; these are above background levels for surface soils. SS011993 missing at least Phenanthrene 350 ug/kg, SS012193 missing at least Ni 35.3 and Ag 1.2.	The existing sample results maps have been replotted to more correctly capture information from the database. Specific changes include the following: • The algorithm in RADMS was changed so that the first sort routine is the routine that compares the value to background and the second sort is detection limit. Now, all analytes above background are shown on the map even if they are non-detected analytes. • SWD/GIS listed some location codes as groundwater, these locations were evaluated to determine if soil samples were associated with the boreholes. If there were associated soil samples they were included. Review of the IA database is summarized in Table 1, below. These data are from the IA Data Summary Report. Sample numbers with the 99A9500 prefix were collected from borings drilled at the 980 Pad not IHSS Group 900-4&5. The value of 350 ug/kg for phenanthrene was not included because it is a non detected value. The value for silver (Ag) was not included because it is less than the corresponding background value of 1.224 mg/kg. The value for nickel (Ni) is now on the map because it is above background, but is a non-detected analyte.
2	The table entitled IHSS Group 900-4&5 Input Parameters DATA Values needs some explanation. Are these SOR values, and if so, are they for the existing sample locations. The calculation for at least a few should be shown as well. How is SOR calculated for analytes that have no action level such as phenanthrene, pentadecane, and heptacecane 2, 6, 10, 15-tetrame...? The parameters	This table and all associated text and maps have been deleted. Please see Industrial Area Sampling and Analysis Plan Fiscal Year 2002, Addendum #IA-02-02. There is no historical evidence that radionuclides were stored at this site. Additionally, drums stored at this site were sampled and radionuclides were not detected. Sampling for radionuclides was

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	provided on the following page need some explanation as well. Finally, radionuclide analysis should be added to the list for this group since rads have been detected above background and have historically be stored at this location.	conducted in 1988 and these data are summarized in the Phase I RFI/RI Work Plan Rocky Flats Plant Other Outside Closures, Operable Unit 10, Rocky Flats Plant, Golden, Colorado, May. (DOE 1992). Samples from four locations were analyzed for radionuclides. One location indicated that plutonium and americium were above background. Americium was detected at 0.15±0.08 (vs. background of 0.045) and plutonium was detected at 0.42±0.18 (vs. background of 0.066) Both of these are well below Tier II ALs. These data are not included in the IA Data Summary because they did not pass the Data Quality Filter. Radionuclides will be included in Addendum #IA-02-02.

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Table 1

LOCID	DESCRIPTION	CASNO	ANALYTE	RESULT	UNITS	LAB QUALIFIER	COMMENTS
99A9500-004	Borehole 980 Pad	10-12-8	Pu-239	0.185	pCi/g	J	
99A9500-004	Borehole 980 Pad	14596-10-2	Am-241	0.258	pCi/g	J	
99A9500-005	Borehole 980 Pad	10-12-8	Pu-239	0.121	pCi/g	J	
99A9500-005	Borehole 980 Pad	14596-10-2	Am-241	0.075	pCi/g	J	
99A9500-006	Borehole 980 Pad	10-12-8	Pu-239	0.28	pCi/g	J	
99A9500-006	Borehole 980 Pad	14596-10-2	Am-241	0.155	pCi/g	J	
99A9500-007	Borehole 980 Pad	10-12-8	Pu-239	0.106	pCi/g	J	
99A9500-008	Borehole 980 Pad	10-12-8	Pu-239	0.086	pCi/g	J	
99A9500-010	Borehole 980 Pad	14596-10-2	Am-241	0.26	pCi/g	J	
SS012193	IHSS 175 (Paint Shop)	7440-02-0	Nickel	35..3	mg/kg		Greater than background but less than MDL (40 mg/kg)
SS012193	IHSS 175 (Paint Shop)	7440-22-4	Silver	1.2	mg/kg	B	Greater than background (1.224 mg/kg)
SS011993	IHSS 175 (Paint Shop)	85-01-8	Phenanthrene	350	ug/kg	U	Non Detect

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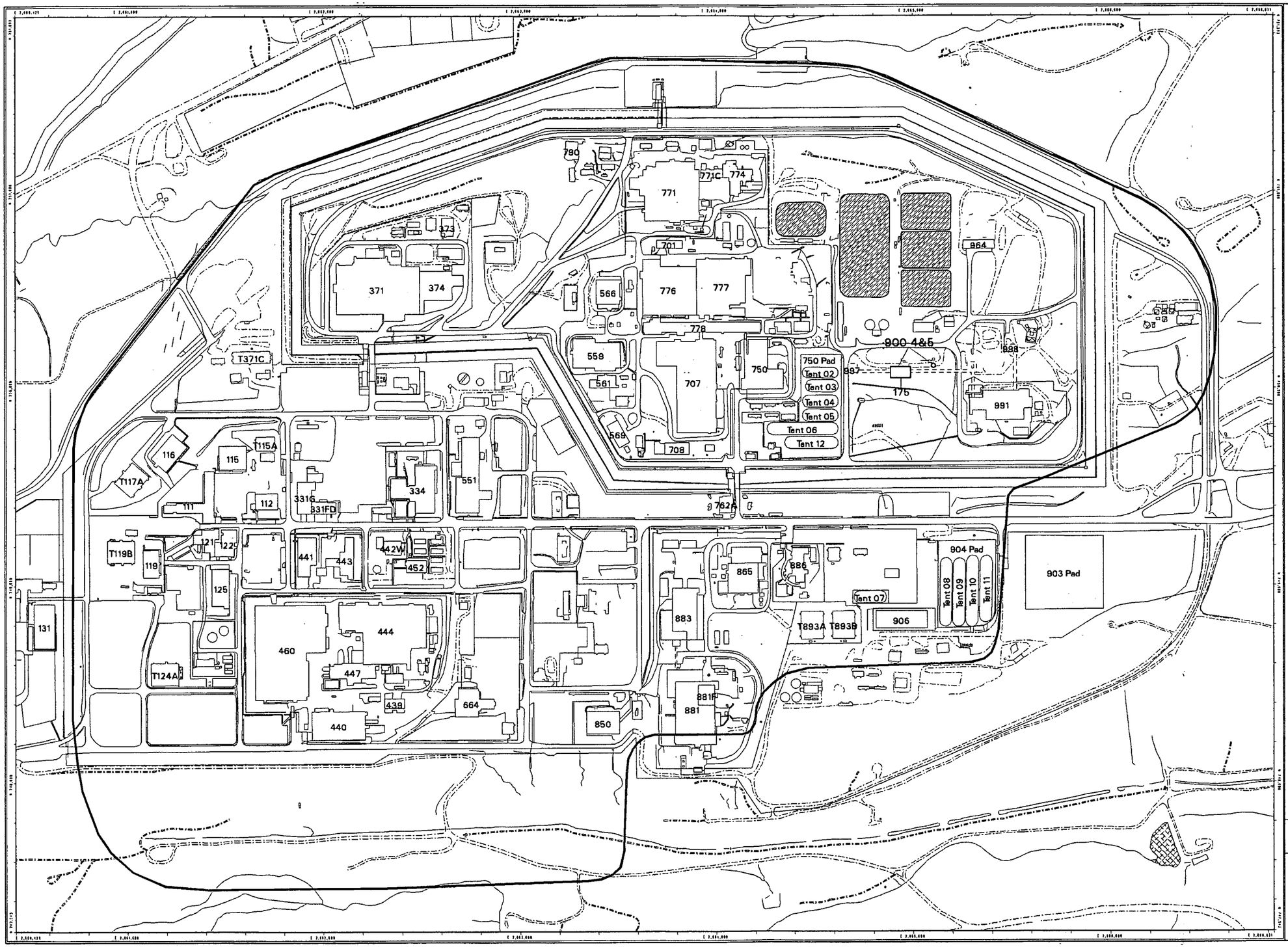
Figure 1
IA Groups Location Map



EXPLANATION

IHSS Groupings

- 900-4&5

Standard Map Features

- Buildings and other structures
- Solar Evaporation Ponds (SEPs)
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads
- Industrial Area Operable Unit Boundary

DATA SOURCE BASE FEATURES:
PACs
Historical Release Report (HRR)
2nd Annual Update
Sept. 30, 1997
Individual Hazardous Substance Sites (IHSS)
DOE, 1992, HRR Report and Subsequent Updates.
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs. 1/95

Scale = 1 : 6000
1 inch represents 500 feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

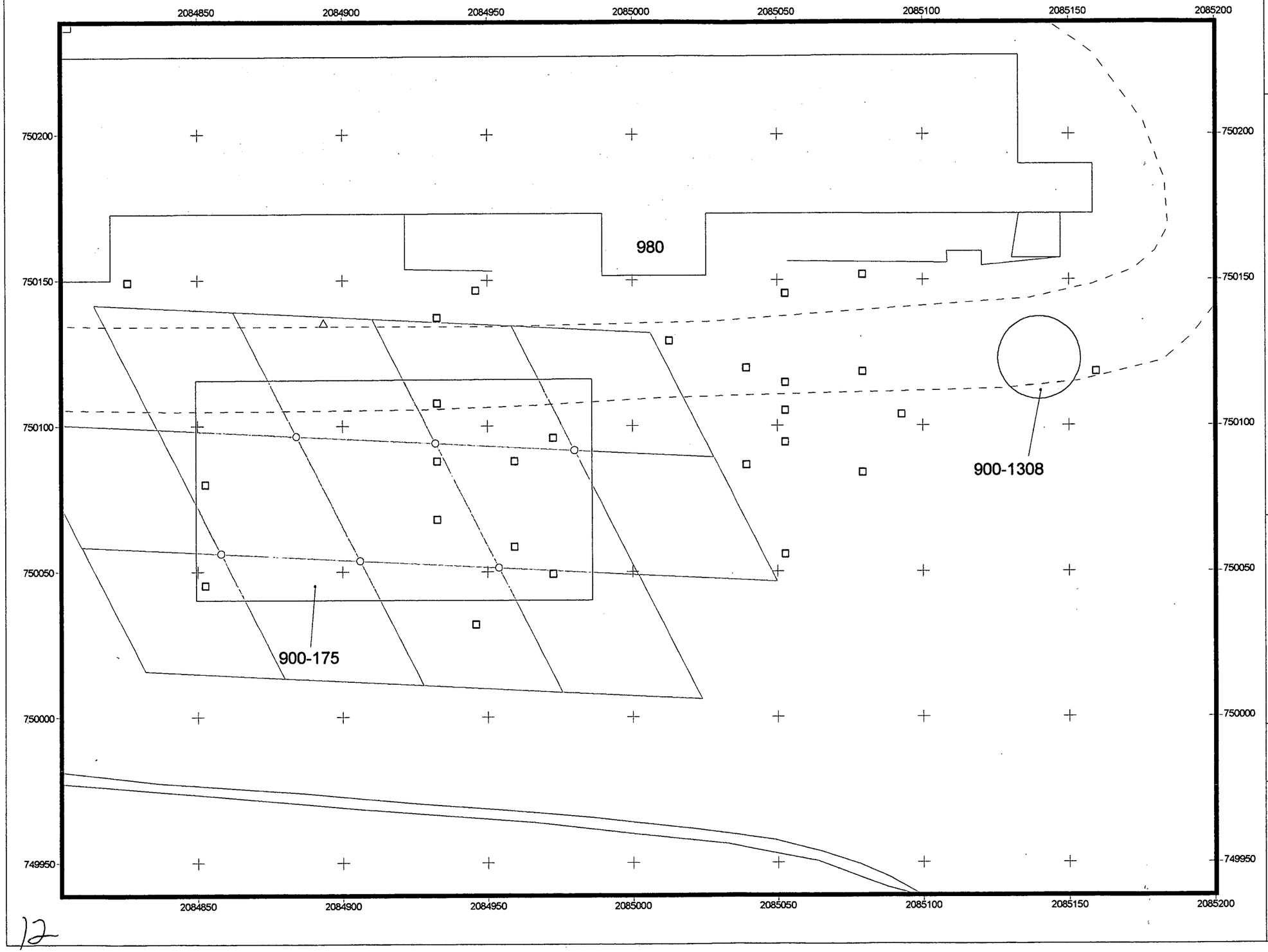
GIS Dept. 303-966-7707

DRAFT

MAP ID: 02-0121

November 14, 2001

NT_Svr h:/projects/fy2002/02-0121/ia-900-4-5-bsize-fig1.aml



FY 2002 Sampling Locations for IA Group 900 - 4&5 (900-175 and 900-1308)

KEY

- FY 2002 geostatistical sampling location
- FY 2002 biased sampling location
- FY 2002 statistical sampling location
- Random start 36-ft triangular grid line
- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations (50-ft buffer)

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:300

10 0 10 20 30 40 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:
WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:
KAISER•HILL COMPANY

statgrid.apr 9 October 2001

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2084850 2084900 2084950 2085000 2085050 2085100

750150 750100 750050 750000

980

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
AM-241	0.258	PCI/G	0.0227	0.046	215	38
PU-239	0.185	PCI/G	0.066	0.063	1429	252

99A9500-004

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
AM-241	0.155	PCI/G	0.0227	0.026	215	38
PU-239	0.28	PCI/G	0.066	0.047	1429	252

99A9500-006

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
BIS(2-ETHYLHEXYL)PHTHALATE	460	ug/Kg	N/A	330	32000000	320000
COPPER	35.9	mg/Kg	18.06	25	71100	71100
IRON	19700	mg/Kg	18037	100	576000	576000
NICKEL	43.5	mg/Kg	14.91	40	38400	38400
ZINC	73.9	mg/Kg	73.76	20	576000	576000

99A9500-008

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
PU-239	0.086	PCI/G	0.066	0.05	1429	252

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
NICKEL	15.8	mg/Kg	14.91	40	38400	38400

SS011893

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
PU-239	0.106	PCI/G	0.066	0.057	1429	252

SS015193

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
CADMIUM	2.1	mg/Kg	1.7	1	1920	1920
PU239/40	0.03974	pCi/g	0.02	0	1429	252
TRICHLOROETHENE	11	ug/Kg	N/A	5	3290	32.9
ZINC	335	mg/Kg	139.1	4	576000	576000

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Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	35.9	mg/Kg	18.06	25	71100	71100
NICKEL	18.8	mg/Kg	14.91	40	38400	38400

99A9500-007

SS015293

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	76.3	mg/Kg	18.06	25	71100	71100

SS015393

SS015493

99A9500-009

900-1308

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	22.4	mg/Kg	18.06	25	71100	71100
NICKEL	35.3	mg/Kg	14.91	40	38400	38400

SS011993

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	20	mg/Kg	18.06	25	71100	71100
NICKEL	15.1	mg/Kg	14.91	40	38400	38400

SS015593

SS015693

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
CADMIUM	3.6	mg/Kg	1.612	5	1920	1920
COPPER	22.5	mg/Kg	18.06	25	71100	71100
ZINC	98.5	mg/Kg	73.76	20	576000	576000

SS016093

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
AM-241	0.075	PCI/G	0.0227	0.029	215	38
PU-239	0.121	PCI/G	0.066	0.049	1429	252

SS012093

SS012293

SS012193

SS015793

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
ZINC	311	mg/Kg	73.76	20	576000	576000

99A9500-005

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	18.3	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	610	ug/Kg	N/A	330	76800000	76800000
NICKEL	16.3	mg/Kg	14.91	40	38400	38400
PYRENE	690	ug/Kg	N/A	330	57600000	57600000
ZINC	110	mg/Kg	73.76	20	576000	576000

SS015893

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	28.8	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	460	ug/Kg	N/A	330	76800000	76800000
PYRENE	420	ug/Kg	N/A	330	57600000	57600000

SS012393

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	26.8	mg/Kg	18.06	25	71100	71100
NICKEL	18.4	mg/Kg	14.91	40	38400	38400
ZINC	82.1	mg/Kg	73.76	20	576000	576000

SS012493

SS015993

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	27	mg/Kg	18.06	25	71100	71100
PYRENE	440	ug/Kg	N/A	330	57600000	57600000
ZINC	149	mg/Kg	73.76	20	576000	576000

SS012593

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
BIS(2-ETHYLHEXYL)PHTHALATE	790	ug/Kg	N/A	330	32000000	320000
COPPER	26.8	mg/Kg	18.06	25	71100	71100
ZINC	93	mg/Kg	73.76	20	576000	576000

SS012693

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
COPPER	31.5	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	370	ug/Kg	N/A	330	76800000	76800000
NICKEL	21.8	mg/Kg	14.91	40	38400	38400
ZINC	108	mg/Kg	73.76	20	576000	576000

SS012793

900-175

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
BENZO(b)FLUORANTHENE	430	ug/Kg	N/A	330	614000	6140
COPPER	18.6	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	600	ug/Kg	N/A	330	76800000	76800000
NICKEL	16.1	mg/Kg	14.91	40	38400	38400
PYRENE	530	ug/Kg	N/A	330	57600000	57600000

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
BENZO(a)ANTHRACENE	340	ug/Kg	N/A	330	614000	6140
BENZO(a)PYRENE	390	ug/Kg	N/A	330	61400	614
BENZO(b)FLUORANTHENE	660	ug/Kg	N/A	330	614000	6140
CHRYSENE	410	ug/Kg	N/A	330	61400000	614000
COPPER	32.7	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	960	ug/Kg	N/A	330	76800000	76800000
MERCURY	0.23	mg/Kg	0.134	0.2	576	576
NICKEL	15.2	mg/Kg	14.91	40	38400	38400
PYRENE	820	ug/Kg	N/A	330	57600000	57600000
ZINC	87.8	mg/Kg	73.76	20	576000	576000

Analyte	Result	Units	Bg_2_stdev	Mdl	Tier1_al	Tier2_al
BENZO(a)ANTHRACENE	400	ug/Kg	N/A	330	614000	6140
BENZO(a)PYRENE	470	ug/Kg	N/A	330	61400	614
BENZO(b)FLUORANTHENE	670	ug/Kg	N/A	330	614000	6140
BIS(2-ETHYLHEXYL)PHTHALATE	1500	ug/Kg	N/A	330	32000000	320000
CHRYSENE	470	ug/Kg	N/A	330	61400000	614000
COPPER	56.5	mg/Kg	18.06	25	71100	71100
FLUORANTHENE	1100	ug/Kg	N/A	330	76800000	76800000
NICKEL	24.4	mg/Kg	14.91	40	38400	38400
PYRENE	900	ug/Kg	N/A	330	57600000	57600000
ZINC	110	mg/Kg	73.76	20	576000	576000

Location of Existing Sample Results Above Detection Limits or Background Levels for IA Group 900-4&5 (I900-175 and 900-1308)

KEY

- FY 2002 IHSS location
- FY 2002 PAC location
- FY 2002 UBC location
- Building/structure
- Paved area
- Dirt road
- Stream, ditch, or other drainage feature

Existing soil sampling locations

- Both subsurface and surface soil
- Subsurface soil
- Surface soil

N

Scale = 1:150

10 0 10 20 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by:

WATERSTONE
Environmental Hydrology and Engineering, Inc.

Prepared for:

KAISER•HILL COMPANY

postings-02.apr 16 November 200